

# 9612 XE Applications and Features



USB Computer Port



RS232 Computer Port

The Kantronics 9612XE is a versatile dual-port, multi-speed radio modem/TNC/data controller designed to fill many different roles, now and in the future. **Directly replacing the KPC-9612+** and capable of speeds up to 38.4 kbps, the 9612XE opens a new era in user flexibility and customization.

The 9612XE now includes the wireless modem modes engineered for dependable and versatile digital communications in the commercial operating environment. Able to communicate in a variety of formats, including TCP/IP, LSUB and TUP, 9612XE units are seamless and transparent radio link substitutes and can also operate as a data-operated switch (DOX).

The Kantronics 9612XE units can fill a variety of roles. They are well made, engineered for dependability and low in cost. It is no wonder Kantronics units are in use around the world.

- 'Keyboard to keyboard' communications
- Digipeater – suitable for remote locations
- 1200 <-> 9600 gateway operation
- Local area node and Network node operation
- Remote command access with password control
- Personal Electronic Mailbox, with message forwarding and retrieval
- Send/Receive Files (terminal software dependent)
- Send/Receive Paging signals (POCSAG 512, 1200, 2400)
- Remote control devices
- GPS position transmitting and tracking (NMEA-0183 data required)
- Data storage and retrieval
- EMWIN weather information (requires additional software)
- Base, Mobile, portable, or remote installations
- The 9612XE can be used in the field with a radio to form a mobile data terminal, or (with the addition of an external GPS receiver) a GPS mobile "tracker". Its broad supply voltage range (DC 5.5 V to 25 V) allows for maximum flexibility.
- Broad supply voltage range operation
- Low current requirement.
- Dual port 1200/9600 bps operation, standard
- Port 1 supports 300, 400, 600, 1200 (default) bps
- Port 2 supports 4800, 9600, 19200, 38400 bps with GMSK/DFSK modulation
- Digital audio drive control -- set from keyboard or by remote control
- Large capacity internal mailbox and mail forwarding feature
- Multiple user mailbox flashes Mail led for up to 10 call signs
- GPS operation mode allows use with APRS® or other geolocation software (when paired with NMEA-0183 compatible GPS receiver)
- Telemetry functions with two A/D inputs, and Remote Control switching with four control line outputs
- 512, 1200, and 2400 baud POCSAG paging transmit/receive capability
- Faster 9S12XE 16-bit microprocessor
- Node and Network node functions standard "KA" Node and K-Net™
- AX.25, Packet, BBS, KISS, XKISS, HOST, TERMINAL, GPS, MODEM (and dumb modem) LSUB, TUP, POLL, operating modes
- Easily upgradeable flash-based bios/firmware
- "Online" HELP feature
- 512K memory standard
- Includes coaxial power plug (USB version also includes USB cable)
- Use with base, mobile, or hand-held radios
- **Made in the USA** -- Limited one-year warranty to original purchaser

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# 9612XE SPECIFICATIONS



USB Computer Port



RS232 Computer Port

Dimensions (H×W×D)	0.8"×6.7"×6.9" (21 mm × 170 mm × 175 mm) without projections
Weight	18 oz (0.5 kg) (approx.)
Power Requirements	9 V dc to 25 V dc, < 45 mA (LEDs on, unit active)
Power Connector Requirements	Coaxial, center pin positive 5mm OD, 2.1mm ID
Power Requirements Internal	Alternate power input through Radio Port 1
External Signal Ports	DB-9 female (radio port 1) DB-15 female (radio port 2) USB type B or 25 pin RS232 (Computer)
Watchdog Timer	2.5 minutes (radio port 1), 40 seconds (radio port 2) (approx)
External Carrier Detect	Pulldown to ground
Analog Measurement Inputs (A/D Converter)	Two inputs; 0 V to +5 V, 12-bit accuracy, ZIN= 20 kΩ
PTT Output	Open drain, max +50 V dc, 200 mA max
RX S/N Quality Indicator	0 V to 3 V dc (Z out= 2.2 k Ω)
Operating Modes	AX.25 Packet, BBS, KISS, XKISS, HOST, GPS, PAGING, MODEM (and dumb-modem), LSUB, TUP, POLL
LED Indicators	Power, Xmit, Rcv, Connected, Status, Mail
Remote Control Access	All controller functions, user defined password
External Reset	Pulldown to ground
Operating Protocols	AX.25 Levels 1 and 2 (user-selectable), KISS (software defined)
Compliance	FCC Class B; Europe CE - Conformity

## Radio Port 1

<b>Data Rate Port 1</b>	1200 bps (default); 300, 400, 600
<b>Modulation Port 1</b>	1200 bps FSK full duplex, Bell-202 1200Hz/2200Hz
<b>Audio Output Level Port 1</b>	Continuously adjustable from 1 mV p-p to 4 V p-p
<b>Output Impedance Port 1</b>	600 Ω, AC coupled
<b>Audio Input Sensitivity Port 1</b>	5 mV p-p
<b>Input Dynamic Range Port 1</b>	> 70 dB
<b>Input Impedance Port 1</b>	Unbalanced, 10 k Ω (600 Ω with jumper J 3 installed)
<b>Max Audio Input Voltage Port 1</b>	±12 V dc; 35 V p-p sinusoidal
<b>Equalization Port 1</b>	None or Fixed

## Radio Port 2

<b>Data Rate Port 2</b>	4800, 9600, 19200, 38400 bps
<b>Modulation Port 2</b>	Gaussian Filtered DFSK with normal bandwidths of 0.3, 0.5 or full Duplex 4800, 9600, 19,200, 38,400 bps
<b>Audio Output Level Port 2</b>	2 mV p-p ~ 100 mV p-p (J 20 off) 80 mV p-p ~ 4 V p-p (J 20 on)
<b>Output Impedance Port 2</b>	600 Ω, AC or DC coupled
<b>Audio Input Sensitivity Port 2</b>	Low: 15 mV ~ 200 mv p-p (J 16 on) High: 80 mV ~ 2.0 V p-p (J 20 on)
<b>Input Dynamic Range Port 2</b>	>20 dB (either range)
<b>Input Impedance Port 2</b>	Unbalanced, 10 k Ω (600 Ω with jumper J 3 installed)
<b>Max Audio Input Voltage Port 2</b>	±25 V dc; 25 V p-p sinusoidal
<b>Equalization Port 2</b>	Variable, Software controlled

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